

# ***Interactive comment on “Application of fractal models to delineate mineralized zones in the Pulang porphyry copper deposit, Yunnan, Southwest China” by Xiaochen Wang et al.***

**Anonymous Referee #1**

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## General comments.

In the paper, the authors apply two methods based on fractal analysis to Cu concentration in order to analyze the mineralized zones of a copper mine. Authors closely follow the logic and the methods described in the rightly referenced articles by Afzal et al. (2011 and 2012) and compare the results obtained from the application of the two procedures. The paper can be interesting for data content and for the comparison made.

Unfortunately, the language is quite poor as it presents some traduction and grammar errors and it is sometimes difficult to follow the logic of the text. Some parts are

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rather obscure (e.g. lines 123-124 or 249-253) A revision by a mother-tongue is recommended.

Specific comments.

- The histogram of Cu % (Fig. 5) seems to be log-normal. If this is the case, the statistical results (mean value and semivariogram parameters) can be biased. The authors are invited to check data distribution and, in case, to make a logarithmic transformation.
- The authors, following Afzal et al. (2011), apply kriging in order to make a 3D interpolation of Cu content. It is not clear if authors use kriging or block kriging. The last procedure in particular (but even the first one) introduces a bias because the fractal behaviour refers to interpolated concentration and not to original data and this aspect may influence fractal analysis. I suggest adding comments on the consequences of the application of an interpolation method on the found fractal ranges.
- The paper basically presents a comparison between two methods of analysis, for this reason, more comments should be added in the conclusions instead of simply describing the results.
- The lines 268-274 refer to particular samples that could validate results, but the outcome is not clear.
- Many of the articles listed in References are not cited in the text.

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